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15927RRUS02U (NORTH 2874001)

PATENT APPLICATION
SERIAL NO. 10/780,007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of: Chowdhury et al.

Serial Number: 10/780,007

Filed: February 17, 2004

For: DISCOVERY OF APPLICATION
SERVER IN AN IP NETWORK

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Examiner: Kim, Paul

Commissioner for Patents
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on: October 5, 2010

/Bradley D. Ellis/
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APPELLANT'S REPLY BRIEF

Appellant respectfully submits this reply brief to the August 12, 2010 Examiner's Answer.

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I. CHU HAS NO NEED FOR A FORWARD DNS QUERY

Page 8 of the Examiner's Answer explains the purpose of the proposed combination of Chu, Barth, and Kelley:

[i]t would have been obvious to one of ordinary skill in the art to combine the inventions of Chu, Kelley, and Barth such that a reverse DNS query and a DNS query may be used in conjunction to improve the reverse DNS lookup system of Chu for the predictable result of enabling a forward DNS query upon the domain name such that an application server may be identified by IP address.

This statement highlights the flaw in the Examiner's reasoning. "[R]outers between two points in a complex network" are being tested in Chu. Chu col. 15, lines 20-23. Chu already has the IP addresses of the routers on the network path. *See* Chu col. 15, lines 29-65. Indeed, it uses these same IP addresses to perform the cited reverse DNS query. The application of Barth and Kelley will not produce the some other IP address of benefit to the Chu network path analysis. Chu has no need for "enabling a forward DNS query upon the domain name such that an application server may be identified by IP address."

In Chu, reverse DNS queries are used to analyze a network path made up of connected routers between two points. *See* Chu col. 15, lines 20-32. The routers are identified by their IP addresses. *See* Chu col. 15, lines 50-55. To determine which service provider is responsible for which router, and thus to allocate delay in the network to the service providers, Chu teaches performing reverse DNS lookups (queries) to determine the domain name of each router. Chu col. 16, lines 7-32.

Chu teaches performing a reverse DNS query on the IP address of each router in the context of assigning responsibility for delays between two points in a network. Chu has already obtained the IP addresses of the routers between the two points, and is using those same IP addresses to

perform reverse DNS lookups. *See* Chu col. 15, lines 29-65. Chu thus has no need to use a forward DNS query obtain the IP address of any router between the two points.

As stated on page 7 of the Examiner's Answer, a DNS query converts a domain name into an IP address, and a reverse DNS query converts an IP address into a domain name. Chu has already obtained the IP address of every router between the two points and has no need to subsequently use a DNS query to obtain those same IP addresses.

II. BARTH TEACHES RANDOM SELECTION OF SERVER NAMES,

WHICH HAS NO PLACE IN CHU

Barth is relied on as teaching the step "selecting, by the wireless mobile device, an application server name as a function of a service desired by the wireless mobile device." Page 8 of the Examiner's Answer states "the application of Barth would allow for the extraction of a server name related to said domain name." On page 9 of the Examiner's Answer, the Examiner contends "Appellant cites portions of Barth which skew and disregard the purpose for the dynamic assignment of clients to a specific server."

The Examiner overlooks the effect of combining Chu with Barth. Barth teaches load balancing, which is nonsensical in the context of the network testing of Chu. According to Barth, a server name is generated by appending a string ending in a random two-digit integer from 00 to 99 to the domain name. Barth col. 11, lines 27-42. Thus, the application of Barth to a router with domain name "host01.inverse.net"¹ will produce one of 100 server² names ranging from

¹ Barth includes leading zeroes (for example, "start01.somename.com") while the example domain names in Chu do not (for example, "host1.inverse.net"). To be consistent with Barth,

“host00.inverse.net” to “host99.inverse.net”. The 100 different possible server names are associated with a number of different servers. Barth places no limitation on the location of these servers. They can be located “at an entirely different physical location” from one another. Barth col. 11, lines 53-56.

Page 9 of the Examiner’s Answer states: “It is noted that Barth is not directed to, as asserted by Appellant, a system where ‘IP addresses would randomly change the path being monitored.’ Rather, Barth is directed to a system wherein client HTTP connections are distributed and assigned to a plurality of individual server systems such that the flow of traffic may be monitored.” Barth itself does not teach randomly changing a path being monitored; the combination of Barth and Chu does.

The Examiner’s proposed combination would apply the teachings of Barth following the reverse domain name queries taught in Chu. At best, doing so would be useless. If the DNS query using a randomly selected server name happened to produce the IP address of the same router the reverse DNS query was performed on, nothing was gained. Chu already had this IP address. In fact, Chu performed a reverse DNS query performed using the IP address.

If the DNS query on the randomly selected server name happened to produce a different IP address, it is unclear what use the Examiner’s proposed combination could make of the new IP address. Chu is testing routers between two points in a network. Chu already has the IP addresses

this example includes leading zeroes. Whether leading zeroes are included is immaterial and the example could just as easily have not used them.

² To keep the terminology consistent with Barth, a “server” as used here includes a router.

of those routers. The application of Barth has now produced the IP address of some other server in the network.

If this new IP address were to be used in the Chu network test, the application of Barth will have been counterproductive. In a test of routers between two points, Barth has introduced a randomly selected new server, effectively changing the path being tested. According to Barth, this new server could be “at an entirely different physical location” from any of the routers between the two points of interest. Performing subsequent network testing with this new, randomly selected network location would be outside the scope of the test of routers between two points in a network.

Furthermore, Chu teaches performing a reverse DNS query on *each* of the routers, to determine if each router is a boundary router. Applying Barth to each of these reverse DNS queries would be even more counterproductive. If each the IP address of every router in the path were replaced with a the IP address of a randomly selected server, the resulting list of IP addresses might not have even a single IP address between the original two points. This result is of no benefit to finding administrative boundaries between routers or any other purpose in Chu.

The purpose of the assignment of client HTTP connections to different servers in Barth is not for monitoring the flow of traffic as suggested in the Examiner’s Answer. Rather, it is for load balancing, regulating client traffic between different servers. Barth col. 11, lines 4-7 and 38-63. Because a client connects to the server with a randomly selected one of the 100 different server names, each server name assigned to a server gives that server “approximately 1% of the total client traffic.” Barth col. 11, line 64 to col. 12, line 10.

The network monitoring or testing in Chu is not “client traffic” which needs to be balanced. Chu teaches testing routers on a path between two points. Load balancing of the network test itself has no place in Chu.

For the foregoing reasons, it is respectfully submitted that the Final Rejections of Claims 1-6 and 15-20 under 35 U.S.C. § 103(a) are improper. Independent Claims 1 and 15 are not obvious in view of Chu, Kelley, and Barth. Appellant respectfully requests that the rejections of Claims 1-6 and 15-20 be reversed.

Appellant hereby authorizes the Commissioner to charge the required fee for the filing of this Reply Brief to Deposit Account No. 14-1315 of Nortel Networks Limited. Appellant does not believe that any other fees are due; however, in the event that any other fees are due, the Commissioner is hereby authorized to charge any required fees due (other than issue fees), and to credit any overpayment made, in connection with the filing of this paper to Deposit Account No. 14-1315 of Nortel Networks Limited.

Respectfully submitted,

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